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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/535,810	03/28/2000	Silvano Gai	112025-0174	5507

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EXAMINER
NGUYEN, PHUOC H

ART UNIT	PAPER NUMBER
2143	7

DATE MAILED: 07/29/2003

Please find below and/or attached an Office communication concerning this application or proceeding.

	Application No.	Applicant(s)
Office Action Summary	09/535,810	GAI ET AL.
	Examiner	**Art Unit**
	Phuoc H. Nguyen	2143

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE <u>3</u> MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.
- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☐ Responsive to communication(s) filed on _____ .

2a)☐ This action is **FINAL**.   2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-25* is/are pending in the application.

    4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☒ Claim(s) *19-24* is/are allowed.

6)☒ Claim(s) *1,2,12-18 and 25* is/are rejected.

7)☒ Claim(s) *3-11* is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

    Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

11)☐ The proposed drawing correction filed on _____ is: a)☐ approved b)☐ disapproved by the Examiner.

    If approved, corrected drawings are required in reply to this Office action.

12)☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

13)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

    a)☐ All b)☐ Some * c)☐ None of:

        1.☐ Certified copies of the priority documents have been received.

        2.☐ Certified copies of the priority documents have been received in Application No. _____ .

        3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

    * See the attached detailed Office action for a list of the certified copies not received.

14)☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).

    a) ☐ The translation of the foreign language provisional application has been received.

15)☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

1)☒ Notice of References Cited (PTO-892)

2)☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)

3)☒ Information Disclosure Statement(s) (PTO-1449) Paper No(s) *4* .

4)☐ Interview Summary (PTO-413) Paper No(s). _____ .

5)☐ Notice of Informal Patent Application (PTO-152)

6)☐ Other: .

DETAILED ACTION

Claim Rejections - 35 USC § 102

1.   The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that

form the basis for the rejections under this section made in this Office action:

> A person shall be entitled to a patent unless –
>
> (e) the invention was described in (1) an application for patent, published under section 122(b), by
> another filed in the United States before the invention by the applicant for patent or (2) a patent granted
> on an application for patent by another filed in the United States before the invention by the applicant
> for patent, except that an international application filed under the treaty defined in section 351(a) shall
> have the effects for purposes of this subsection of an application filed in the United States only if the
> international application designated the United States and was published under Article 21(2) of such
> treaty in the English language.

2.   Claims 1,2,12-18, and 25 rejected under 35 U.S.C. 102(e) as being anticipated by

Khanna U.S. Patent 6,591,331.

3.   Referring to claims 1, and 25, Khanna reference discloses a regular expression

storage device for storing the pre-defined regular expressions and one or more

corresponding actions that are to be applied to network messages matching the respective

regular expressions, the storage device including a content-addressable memory (CAM)

having a plurality of entries containing at least the pre-defined regular expressions

(Figure 1; col. 1, lines 14-20; and col. 2, lines 38-64); and a decoder circuit coupled to the

regular expression storage device, the decoder circuit configured to control an input to the

CAM that includes a given network message or selected portion thereof for comparison

with the regular expressions contained within the CAM, and to receive and decode an

output returned from the regular expression storage device, the output identifying the

action to be applied to the given network message or portion thereof, whereby the CAM

is configured such that each network message or portion thereof input to the CAM is

compared against all CAM entries at the same time, allowing high-speed pattern

matching of network messages (Abstract; Figure 1; col. 1, last paragraph; col. 2, lines 38-64; and col. 3, lines 51-60).

4.   Referring to claims 2, and 17, Khanna reference discloses each CAM entry further contains a tag such that all CAM entries having the same tag define a single logical CAM within the CAM, and further wherein the decoder circuit is configured to constrain the matching of a given CAM input to the CAM entries corresponding to a selected logical CAM (col. 3, last paragraph through col. 4, 1st paragraph).

5.   Referring to claims 12, and 16, Khanna reference discloses the regular expression storage device further includes a second memory structure having a plurality of entries for storing the actions to be applied to the network messages, wherein each entry of the second memory structure is associated with a corresponding entry of the CAM and stores the action to be applied to network messages matching the regular expression of its corresponding CAM entry (Figure 5; and col. 6, lines 21-32).

6.   Referring to claim 13, Khanna reference discloses the second memory structure is a random access memory (RAM) (Figure 5; and col. 6, lines 21-32).

7.   Referring to claim 14, Khanna reference discloses the CAM is a ternary content addressable memory (TCAM) that supports don't care values (col. 3, 2nd paragraph; and col. 4, 2nd paragraph).

8.   Referring to claim 15, Khanna reference discloses storing the pre-defined regular expressions in a content-addressable memory (CAM) having a plurality of entries (Abstract; and col. 1, lines 14-24); associating each CAM entry with the action that corresponds to the regular expression stored at the respective CAM entry (col. 5, lines 36-63); inputting a given network message or selected portion thereof to the CAM for

comparison with all of the regular expressions stored therein (Figure 5; and col. 6, lines

21-32); and identifying the action that corresponds to a first CAM entry matching the

inputted network message or selected portion thereof (Abstract; col. 1, lines 41-67; and

col. 2, liens 38-64).

9.   Referring to claim 18, Khanna reference discloses the CAM is a ternary content

addressable memory (TCAM) and the second memory structure is a random access

memory (RAM) (Figure 5; col. 6, lines 21-32; col. 3, 2nd paragraph; and col. 4, 2nd

paragraph).

Allowable Subject Matter

10.   Claims 3-11 objected to as being dependent upon a rejected base claim, but would

be allowable if rewritten in independent form including all of the limitations of the base

claim and any intervening claims.

11.   Claims 19-24 allowed.

Conclusion

12.   The prior art made of record and not relied upon is considered pertinent to

applicant's disclosure.

Sirnivasan et al. U.S. Patent 6,564,289

Sirnivasan et al. U.S. Patent 6,381,673

Khanna et al. U.S. Patent 6,574,702

Buti et al. U.S. Patent 6,480,931

Bezek et al. U.S. Patent 5,615,360

Lipovski U.S. Patent 5,758,148

Sherman U.S. Patent 6,389,507

Chopra et al. U.S. Patent 6,510,509

Kanno U.S. Patent 6,169,999

Rachels U.S. Patent 5,072,422

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Phuoc H. Nguyen whose telephone number is 703-305-5315. The examiner can normally be reached on Mon -Thu (7AM-4:30PM) and off every other Friday.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, David A Wiley can be reached on 703-308-5221. The fax phone numbers for the organization where this application or proceeding is assigned are 703-746-7239 for regular communications and 703-746-7238 for After Final communications.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is 703-305-3900.

Phuoc H. Nguyen
Examiner
Art Unit 2143

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July 23, 2003

DAVID WILEY
SUPERVISORY PATENT EXAMINER
TECHNOLOGY CENTER 2100